

**R307. Environmental Quality, Air Quality.**

**R307-342. ~~[Ozone Nonattainment and Maintenance Areas:]~~  
Qualification of Contractors and Test Procedures for Vapor  
Recovery Systems for Gasoline Delivery Tanks.**

**R307-342-1. Purpose.**

The purpose of R307-342 is to establish the requirements for the qualification of contractors to perform vapor tightness tests on gasoline transport vehicles equipped with vapor recovery equipment.

**R307-342-2. Applicability.**

R307-342 is applicable to anyone who wishes to become qualified by the executive secretary to perform vapor tightness tests on gasoline transport vehicles that are required to be equipped with gasoline vapor recovery equipment and to be tested in accordance with R307-328-7.

**R307-342-3. Contractor Qualification Requirements.**

(1) Any person may become qualified to perform delivery tank vapor tightness tests by:

(a) preparing a written, detailed and approvable procedure by which the person proposes to conduct the pressure/vacuum test.

The minimum test performance requirements are described in R307-342-5 and R307-342-6;

(b) submitting the procedure with a letter requesting approval of the procedure and qualification of the person as a qualified testing contractor;

(c) having the necessary facilities, equipment and expertise to perform a satisfactory test; and

(d) performing an acceptable demonstration test with a representative of the executive secretary in attendance.

(2) The person determined qualified to perform the tests will be issued a letter of qualification by the executive secretary valid for one year.

(3) Re-qualification will be accomplished by:

(a) requesting by letter to be requalified by the executive secretary; and

(b) performing an acceptable demonstration test with a representative of the executive secretary in attendance after which a letter of requalification will be sent.

**R307-342-4. Equipment Requirements.**

(1) Pressure Source. An air pump, shop compressed air, compressed gas tanks of air or inert gas, or other approved air pressure producing source or procedure sufficient to pressurize the tank to 18 inches of water above atmospheric pressure is required. Some models of reversible tank-type shop vacuum cleaners will perform adequately.

(2) Vacuum Source. A vacuum pump or other approved vacuum producing procedure capable of evacuating the tank to 6 inches of water is required. For example, some models of shop vacuum cleaners can accomplish this function.

(3) Pressure. A vacuum supply hose must be of sufficient length and wall strength to reach from the tank to the pressure

vacuum source.

(4) Manometer. A liquid manometer or equivalent instrument must be capable of measuring up to 25 inches of water with scale division of 0.1 inches of water. A 1/4-inch hose to connect the manometer to the adapter tap is recommended.

(5) Stopwatch. A stopwatch with scale division to one second is required.

(6) Adapter. An adapter to connect the pressure vacuum hose to the tank with a shutoff valve to isolate the tank from the required pressure vacuum equipment is required. The adapter requires a shutoff valve, a tap to attach the manometer, and a bleed valve for adjusting pressure/vacuum to specified levels prior to start of timed period. However, each contractor must use an adapter compatible with his equipment.

(7) Caps. Dust caps with good gaskets are required on all outlets during the test.

(8) Pressure/Vacuum Relief Valves. The test apparatus should be equipped with an in line pressure/vacuum relief valve set to activate at 25 inches of water above atmospheric and 12 inches of water below if the pressure/vacuum equipment has greater capacity than the set points to prevent possible tank damage.

#### **R307-342-5. Test Procedures and Preparations.**

(1) Location. The delivery tank must be tested in a location where it will not be subject to direct sunlight. Shop heaters/air conditioners must be turned off during the test as they will affect the tank stability.

(2) Purging the Tank. A good purge is necessary.

(a) The tank must be emptied of gasoline and vapors before testing to minimize "vapor growth" problems. Hauling a load of diesel fuel is recommended.

(b) A steam purge to degas the tank is acceptable.

(c) An alternate method is to purge with a high volume of air. For this purge, the hatches are to be opened and purge air or inert gas should be blown through the tank for 30 minutes or more to degas the tank. This method is not as effective and often requires a much longer time for stabilization during the test.

(3) Visual Inspection. While the tank is being purged, or prior to the test, the entire tank should be visually inspected for evidence of wear, damage or misadjustments that could be a source of potential leaks. Areas to check are domes, dome vents, cargo tank piping, hose connections, hoses and delivery elbows. Any part found defective should be adjusted, repaired or replaced as necessary before the pressure test is started.

(4) Vents, Valves, and Outlets.

(a) The emergency valves in the bottom of the tank must be opened during the purge and then closed to test.

(b) Open the top vents. If the top vents are the pneumatic type, then a shop air line connection must be provided as the vents must be in the open position during the purge and then closed to test.

(c) In order to complete the test, some types of dome vents may have to be replaced.

(d) During the test, all compartments must be interconnected

so that the tank may be tested as a single unit. If this cannot be done, each compartment must be tested as a separate tank.

(e) Dust caps with good gaskets must be installed on all outlets.

(5) Pretest Preparation and Procedure.

(a) Open and close each dome cover.

(b) Connect the static electric ground connections to tank, attach the liquid delivery and vapor return hoses, remove liquid delivery elbows and seal the liquid delivery hose fitting, install dust caps on all outlets except the vapor return hose.

(c) Attach the test adapter to the vapor return hose of the tank under test with the shutoff valve closed.

(d) Connect the pressure supply hose to the adapter.

(e) Connect the 1/4-inch hose to the adapter tap and the manometer if applicable and position of the manometer or gauge at eye level.

(f) Open all internal vents and valves if possible. If not possible, each compartment must be tested as if each compartment was a separate tank.

(6) The Pressure Test.

(a) With all preparations complete, turn on the pressure source and open the shutoff valve in the adapter to apply air pressure slowly. Pressurize the tank to 18 inches of water.

(b) Close the shutoff valve and allow the pressure in the tank to stabilize. When the pressure has stabilized, read and record the time and initial pressure on the manometer.

(c) Allow five minutes to elapse, then read and record the final time and pressure.

(d) Disconnect the pressure source from the adapter and slowly open the shutoff valve to bring the tank to atmospheric pressure.

(e) Subtract the final pressures from the initial pressures.

(f) If the sustained pressure drop is greater than 3.0 inches of water, repair the leaks and then repeat the steps in (a) through (e).

(g) Repeat the steps in (a) through (f) until the change in pressure for two consecutive runs agrees within 1/2 inch of water. Calculate the arithmetic average of the two results.

(7) The Vacuum Test.

(a) Connect the vacuum source to the adapter. Start the vacuum source and slowly open the shutoff valve to evacuate the tank to six inches of water and close the shutoff valve.

(b) Allow the pressure in the tank to stabilize, adjust as necessary to maintain six inches of water vacuum until the pressure stabilizes.

(c) Read and record the time and the initial vacuum reading on the manometer. Allow five minutes to elapse, then read and record the final manometer reading.

(d) Disconnect the vacuum source from the adapter, and slowly open the shutoff valve to bring the tank to atmospheric pressure.

(e) Subtract the final reading from the initial reading.

(f) If the sustained vacuum loss is greater than three inches of water, the leakage source must be located and repaired.

The steps in (a) through (e) must be repeated.

(g) Repeat the steps in (a) through (f) until the change in vacuum for two consecutive runs agree within 1/2 inches of water. Calculate the arithmetic average of the two results.

(8) When the calculated average pressure change in five minutes for both the pressure test and the vacuum test are three inches of water or less, the requirements of the test are satisfied and the tested tank may be certified leak tight.

#### **R307-342-6. Certification of a Delivery Tank.**

(1) The approved contractor will upon satisfactory completion of the vapor tightness test complete the documentation of certification in two copies. If desired, each contractor may prepare his own certificate as long as the following items are included:

- (a) Gasoline delivery tank pressure test.
- (b) Tank owner and address.
- (c) Tank ID number.
- (d) Testing location.
- (e) Date of test.
- (f) Tester name and signature.
- (g) Company or affiliation of testers.
- (h) Test data results.
- (i) Date of next required test.

(2) The contractor will keep one copy that will be made available for inspection by the executive secretary for two years.

The tank owner or operator will keep the other copy of the certification with the delivery tank for two years for inspection by the executive secretary.

(3) The approved contractor will mark the certified tank below the DOT test marking with "V.R. TESTED" followed by the month and year of the current certified test. The vapor recovery test marking shall be at least 1-1/4" high black permanent letters on a white background. The letters and numbers must be of a type that will remain legible from a distance of 20 feet for at least one year (painted or printed sticker is acceptable).

#### **R307-342-7. Alternate Methods of Control.**

(1) Any person may apply to the executive secretary for approval of an alternate test method, an alternate method of control, an alternate compliance period, an alternate emission limit, or an alternate monitoring schedule. The application must include a demonstration that the proposed alternate produces an equal or greater air quality benefit than that required by R307-342, or that the alternate test method is equivalent to that required by these rules. The executive secretary shall obtain concurrence from EPA when approving an alternate test method, an alternate method of control, an alternate compliance period, an alternate emission limit, or an alternate monitoring schedule.

(2) Manufacturer's operational specifications, records, and testings of any control system shall use the applicable EPA Reference Methods of 40 CFR Part 60, the most recent EPA test methods, or EPA-approved state methods, to determine the efficiency of the control device. In addition, the owner or

operator must meet the applicable requirements of record keeping for any control device. A record of all tests, monitoring, and inspections required by R307-342 shall be maintained by the owner or operator for a minimum of 2 years and shall be made available to the executive secretary or the executive secretary's representative upon request. Any malfunctioning control device shall be repaired within 15 calendar days after it is found by the owner or operator to be malfunctioning, unless otherwise approved by the executive secretary.

(3) For purposes of determining compliance with emission limits, volatile organic compounds and nitrogen oxides will be measured by the test methods identified in federal regulation or approved by the executive secretary. Where such a method also inadvertently measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emissions standard.

**KEY: air pollution, ozone, gasoline transport**

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